

AMENDMENTS TO THE CLAIMS

Please amend the claims to read as follows:

1. (Canceled)
2. (Currently Amended) ~~A display according to claim 1,~~ A vacuum fluorescent display comprising:
 - a cathode electrode for emitting electrons;
 - a grid electrode for extracting the electrons from said cathode electrode;
 - an anode electrode for accelerating the electrons extracted from said cathode electrode;
 - at least one envelope which accommodates said cathode electrode, said grid electrode, and said anode electrode in a vacuum space and has a display portion having light transmission properties;
 - a phosphor layer formed on an inner surface of the display portion of said envelope and adapted to emit light upon bombardment of the electrons accelerated by said anode electrode;
 - a cap made of an X-ray shielding material and supported outside said envelope so as to surround the display portion of said envelope through a gap, said cap having
 - a light exit surface from which the light emitted from said phosphor layer emerges through the display portion of said envelope,
 - a cylindrical-shaped bottom to cover the display portion of the envelope and a front side surface of the envelope through the gap; and
 - a cooling liquid sealed in the gap;wherein said cap is made of lead glass having light transmission properties.
3. (Canceled)
4. (Currently Amended) A display according to claim ~~1~~ 2, wherein said cathode electrode contains carbon nanotubes.
5. (Currently Amended) ~~A display according to claim 1,~~ A vacuum fluorescent display comprising:
 - a cathode electrode for emitting electrons;
 - a grid electrode for extracting the electrons from said cathode electrode;

an anode electrode for accelerating the electrons extracted from said cathode electrode;
at least one envelope which accommodates said cathode electrode, said grid electrode, and
said anode electrode in a vacuum space and has a display portion having light transmission
properties;

a phosphor layer formed on an inner surface of the display portion of said envelope and
adapted to emit light upon bombardment of the electrons accelerated by said anode electrode;

a cap made of an X-ray shielding material and supported outside said envelope so as to
surround the display portion of said envelope through a gap, said cap having

a light exit surface from which the light emitted from said phosphor layer emerges
through the display portion of said envelope. —

a cylindrical-shaped bottom to cover the display portion of the envelope and a front
side surface of the envelope through the gap; and

a cooling liquid sealed in the gap;

wherein said cap further comprises;

a front surface glass member made of translucent lead glass having light transmission properties and fitted in one opening of said cylindrical portion corresponding to the display portion of said envelope;

wherein the cylindrical-shaped bottom is made of the X-ray shielding material containing lead glass having light transmission properties.

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Previously Presented) A vacuum fluorescent display comprising:

a cathode electrode for emitting electrons;

a grid electrode for extracting the electrons from said cathode electrode;

an anode electrode for accelerating the electrons extracted from said cathode electrode;

at least one envelope which accommodates said cathode electrode, said grid electrode, and said anode electrode in a vacuum space and has a display portion having light transmission properties,

wherein said envelope has a stem in which a plurality of lead pins to be connected to said electrodes are buried and which has an outer diameter slightly larger than that of said envelope, and

a portion between a tip of an opening of said cap and said envelope is sealed by the stem to form the gap,

wherein said stem is made of an insulating elastic material;

a phosphor layer formed on an inner surface of the display portion of said envelope and adapted to emit light upon bombardment of the electrons accelerated by said anode electrode; and a cap made of an X-ray shielding material and supported outside said envelope so as to surround the display portion of said envelope through a gap, said cap having a light exit surface from which the light emitted from said phosphor layer emerges through the display portion of said envelope,

wherein said cap surrounds said envelope entirely;

a cooling liquid sealed in the gap, and

a liquid reservoir formed in the stem to communicate with the gap.

10. (Previously Presented) A vacuum fluorescent display comprising:

a cathode electrode for emitting electrons;

a grid electrode for extracting the electrons from said cathode electrode;

an anode electrode for accelerating the electrons extracted from said cathode electrode;

at least one envelope which accommodates said cathode electrode, said grid electrode, and said anode electrode in a vacuum space and has a display portion having light transmission properties;

a phosphor layer formed on an inner surface of the display portion of said envelope and adapted to emit light upon bombardment of the electrons accelerated by said anode electrode; and a cap made of an X-ray shielding material and supported outside said envelope so as to surround the display portion of said envelope through a gap, said cap having a light exit surface from which the light emitted from said phosphor layer emerges through the display portion of said envelope,

wherein said envelope comprises a plurality of envelopes corresponding to a plurality of colors, and

said cap surrounds display portions of the plurality of envelopes all together.

11. (Currently Amended) A display according to claim ~~1~~, 2, wherein the envelope comprises a cylindrical glass bulb, a circular plate fixed to a front surface opening of a glass valve and a glass stem fixed to a rear surface opening of the glass valve, and

wherein the cylindrical-shaped bottom also covers the circular plate and the front surface of the glass valve.

12. (Previously Presented) A vacuum fluorescent display comprising:
a cathode electrode for emitting electrons;
a grid electrode for extracting the electrons from said cathode electrode;
at least one envelope which accommodates said cathode electrode, said grid electrode, and
said anode electrode in a vacuum space, wherein the envelope comprises
a display portion having light transmission properties,
a stem in which a plurality of lead pins to be connected to said electrodes are buried
and which has an outer diameter slightly larger than that of said envelope, and
a portion between a tip of an opening of said cap and said envelope is sealed by the stem to
form the gap;
a phosphor layer formed on an inner surface of the display portion of said envelope and
adapted to emit light upon bombardment of the electrons accelerated by said anode electrode; and
a cap made of an X-ray shielding material and supported outside said envelope so as to
surround the display portion of said envelope through a gap, said cap having a light exit surface
from which the light emitted from said phosphor layer emerges through the display portion of said
envelope and having a cylindrical-shaped bottom to cover the display portion of the envelope and a
side surface of the envelope, wherein said cap surrounds said envelope entirely.
13. (Previously Presented) A display according to claim 12, wherein said stem is made of an
insulating elastic material.
14. (Currently Amended) The display according to claim ~~1~~ 2, wherein the envelope is
cylindrically shaped, and at least 1/3 of the region of the front side of the envelope is covered by
the cap.
15. (New) A display according to claim 5, wherein said cathode electrode contains carbon
nanotubes.
16. (New) A display according to claim 5, wherein the envelope comprises a cylindrical glass
bulb, a circular plate fixed to a front surface opening of a glass valve and a glass stem fixed to a
rear surface opening of the glass valve, and
wherein the cylindrical-shaped bottom also covers the circular plate and the front surface of
the glass valve.

17. (New) The display according to claim 5, wherein the envelope is cylindrically shaped, and at least $\frac{1}{3}$ of the region of the front side of the envelope is covered by the cap.